

Minnesota E85 Test Market

**Update & Possible Lessons for H2
Development
NREL H2 Refueling
Infrastructure Lessons Learned
Workshop**

Sacramento, CA – April 3, 2008

Tim Gerlach

American Lung Association of the Upper Midwest

Illinois – Indiana – Iowa – Minnesota

North Dakota – South Dakota - Wisconsin

651.227.8014 • CleanAirChoice.org



Minnesota E85 Market

- E10 statewide, year-around since 1997.
- 1997-98: Selected as national pilot market by USDOE, Ford, NEVC, MN Corn, state agencies, ethanol producers, ALAMN.
- 'E85 Team' housed at/staffed by ALAMN
- ~355 stations today . . . By 2012 ?

Minnesota Clean Air Choice Team

MN Corn Growers Association

MN Soybean Growers Association

MN Dept of Commerce Energy Division

MN Dept of Agriculture

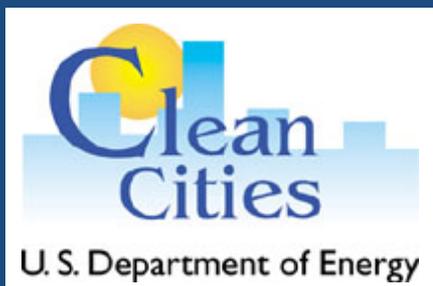
General Motors Corporation

National Ethanol Vehicle Coalition

US Dept of Energy Clean Cities

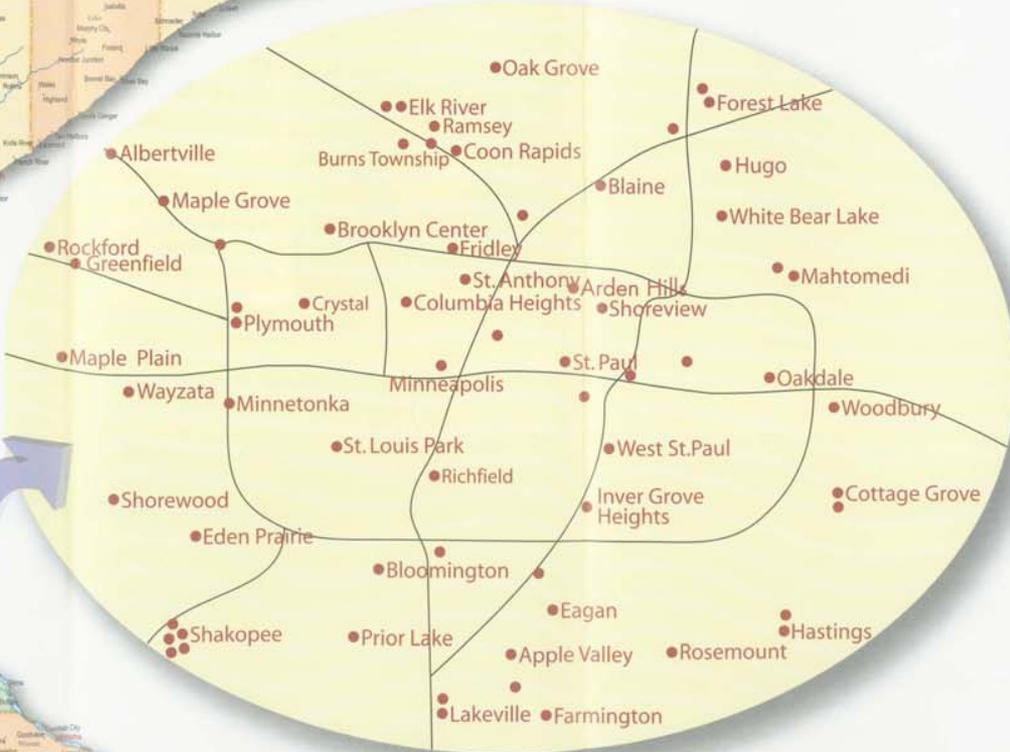
American Lung Association of MN

Others have assisted including fuel producers, fuel suppliers, foundations, fleets, Ford Motor Company and several state and federal government entities



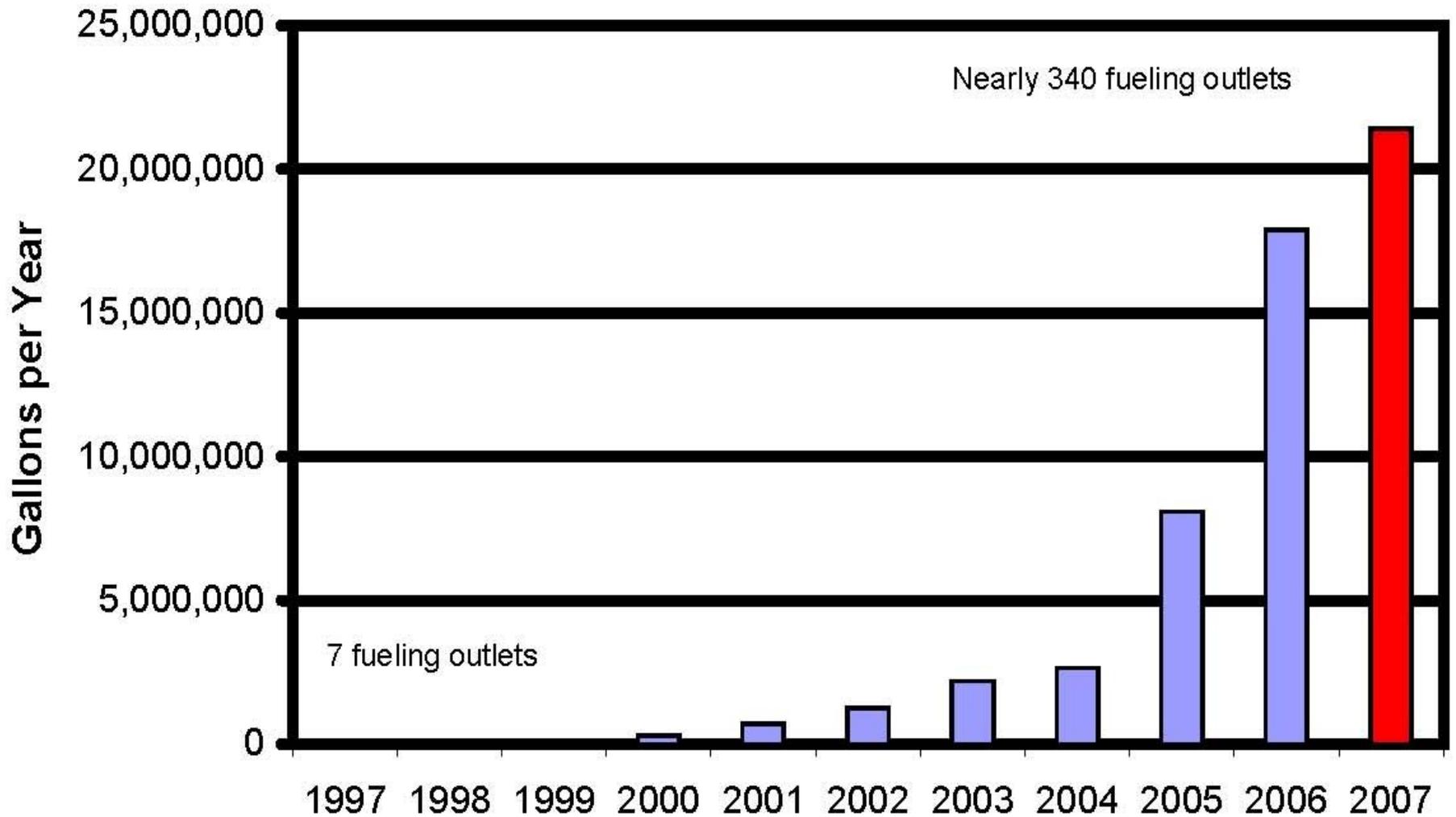
Cities marked in red indicate E85 stations

(metro area map not to scale)



For Minnesota E85 Information: www.CleanAirChoice.org
800-LUNG-USA (in Minnesota) or 651-227-8014
For E85 Stations Across the USA: www.E85Fuel.com or 877-485-8595

Growth of Minnesota E85 Sales



Sources:

MN Dept. of Commerce Energy Division; American Lung Association of MN; MN E85 Team – www.CleanAirChoice.org

Our Approach

Personnel & funding focused on:

- Assist retailers with grants
- Assist in technical, marketing & trouble-shooting
- Public policy issues
- Build consumer awareness
 - Earned media (publicity)
 - Paid media (advertising)

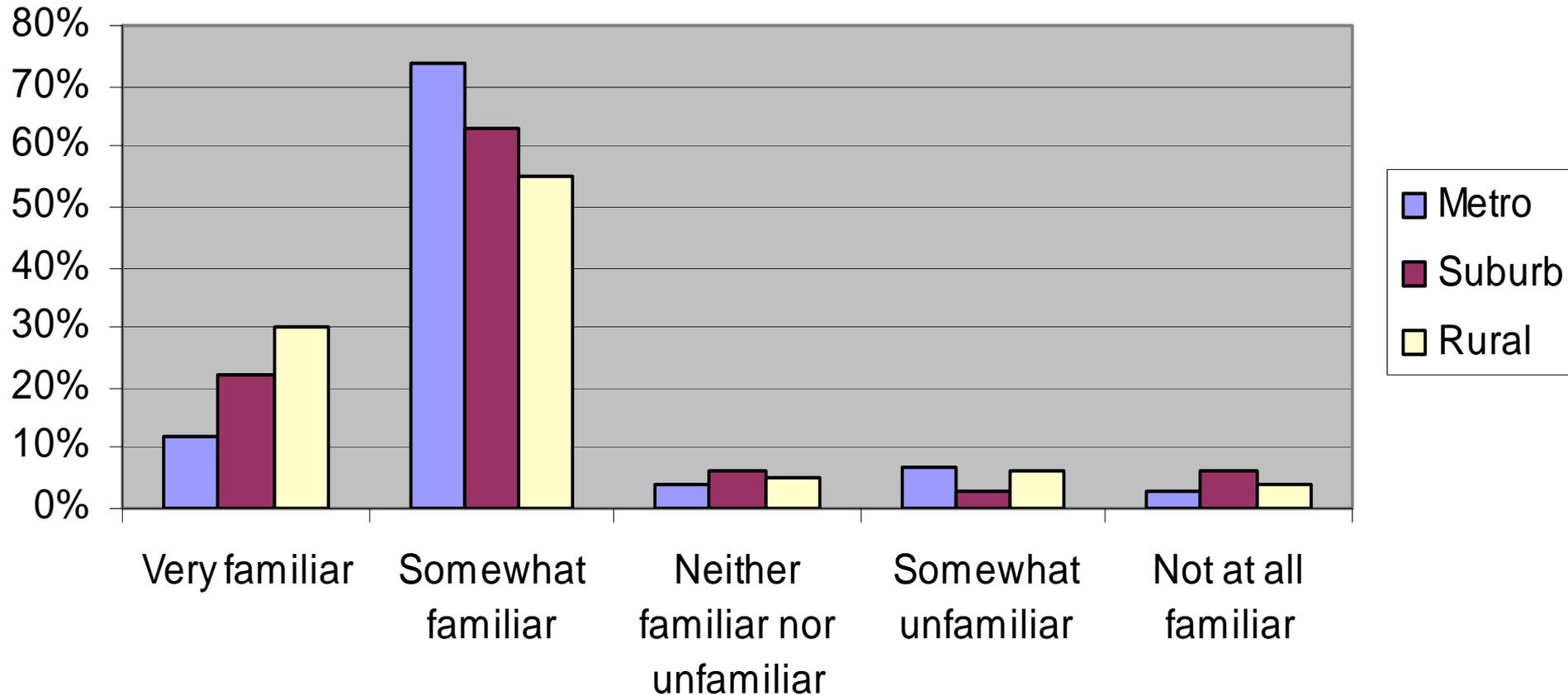
Name it, we've tried it

Print, Radio, TV, Billboards, Pro baseball & basketball, college hockey, special events & stunts, fuel give-aways, direct-mailings, wrapped vehicles, banners, parades, presenting anywhere and everywhere; race car sponsors, coupons, ultra-marathon runner, Twin Cities marathon water stop, school events, church events; Earth Day events, zamboni ads, bus ads, airport ads, online contests, conversions, dealer contests, fuel cards, state fair displays, frequent-use contests, etc.

Investment: ~\$9 million-plus over 9 years

~85% of Minnesota motorists claim to be 'very' or 'somewhat' familiar with E85

- ALAMN survey, June '07



1200 BX 6

E-85 flap fuels governor's race

By **DON DAVID** and
SCOTT WENTE

Forum Communications

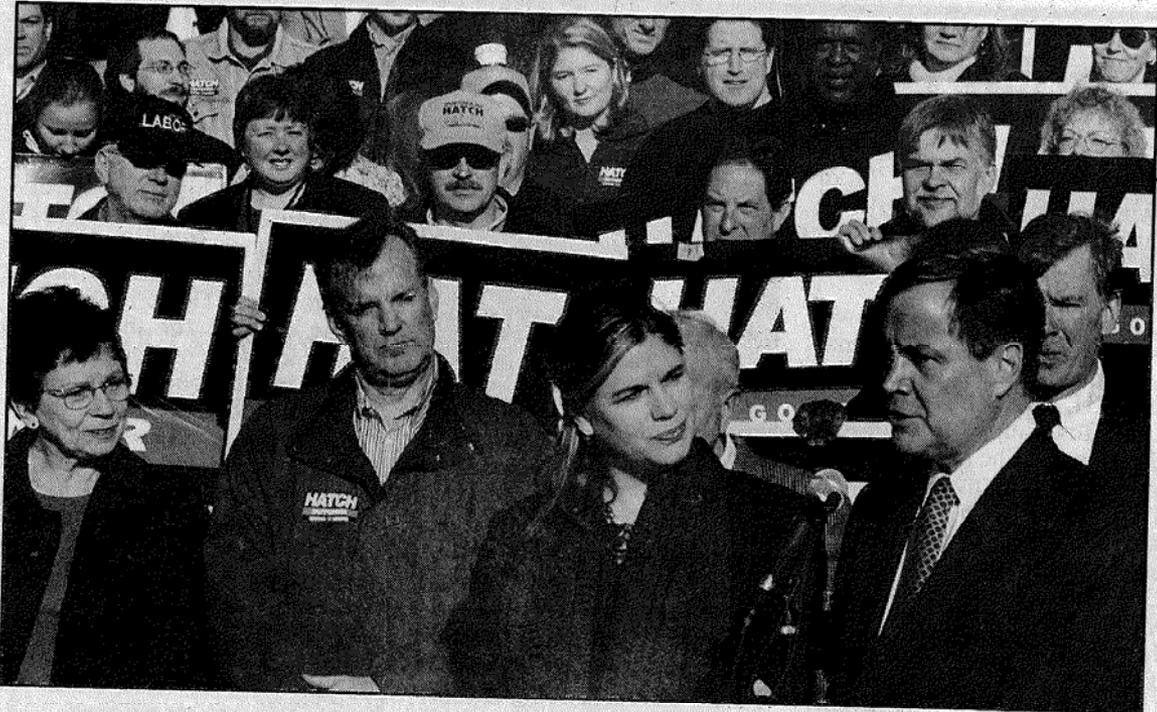
ST. PAUL — A lieutenant governor candidate saying she knew nothing about corn-based E-85 fuel could spell the difference in a tight Minnesota governor's race.

"If the election is very close, yes, that could make a difference," said Jim Danielson, a Minnesota State University Moorhead political science professor and pollster.

When an Alexandria, Minn., television reporter asked Democratic lieutenant governor candidate Judi Dutcher about E-85, she said that she "can't even comment on it, I'm sorry. It's like you've asked me the college quiz bowl question. What is E-85?"

The answer is that E-85 is a blend of 85 percent ethanol, usually made from corn, and 15 percent gasoline. Minnesota's 200-plus E-85 pumps are more than the rest of the country combined.

Ethanol is important in western and southern Minnesota, where candidates are concentrating much of their attention in the campaign's waning days.



Judi Dutcher looks at DFL governor candidate Mike Hatch, right, during a Monday rally to launch a statewide tour. Dutcher, Hatch's running mate, is under fire for not knowing about E-85, an ethanol-based fuel.

DON DAVIS/ST. PAUL BUREAU

"It would be different if this were some nuanced issue or some obscure issue," Pawlenty added.

will hurt the Hatch campaign. However, he quickly added, it won't ruin the Hatch-Dutcher ticket's chances.

to the Hatch-Dutcher ticket, its politically conservative rival organization didn't let the DFL candidates off the hook.

Observations

- Petroleum prices outweigh all other factors
- Progress slower than expected – Quickening
- UL issue slowed E85 growth in some areas
- Local champions imperative to success
- Major step: ‘Converting’ premium/midgrade pumps – E85 outselling those at most outlets
- Source of fuel supply makes a big difference

Retail Case Study:

Holiday Stationstores



**One-third of Minnesota motorists view
Holiday Stationstores as the E85 leader.**

- ALAMN survey, Feb '07



E-85



Holiday Example

- Terminal; transports
- Commands a price due to its large E10 volume
- *No false expectations*



-19.3%





1999:
~\$10,000

"Partial" Conversion



2007
~\$40,000

Complete Install

Challenges of Success

- We often think too small.
- Nay-sayers will always be there.
- Stay in game long enough for the world to catch up.
- Are we ready for success?

Our vision: navigate, adapt & maintain

30,000-ft View

- Research/planning are vital; but eventually somebody has to “Just Do It.”
- No one wants to be first in failure
- When ahead of the curve – Many claim it can’t be done.
- Certainty: Energy costs will continue to rise and technology will continually evolve.
- If it’s too complicated, it will not work.
- Biofuels are one solution along a development pathway.

E85 in MN vs. H2

- E85. Very similar to gasoline.
- E85. Similar supply/stations/distribution.
- E85. Vehicles – inexpensive & production scalable.
- E85. Fuel cost competitive with 87-octane gasoline.
- Market Acceptance: We weren't ready for success in 2006 – Nor, the negativity of today.
- Funding has always been biggest battle.
- \$9M invested in 9 years in consumer education, management, infrastructure (grants + cost share).
- \$30M would complete MN E85 fueling network.

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of the Upper Midwest**



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